

ABSTRACT

A magnetoresistive device comprises an MR element, bias field applying layers located adjacent to the side portions of the MR element, and two electrode layers that feed a sense current to the MR element. The electrode
5 layers overlap one of the surfaces of the MR element. The total overlap amount of the two electrode layers is smaller than $0.3\text{ }\mu\text{m}$. The MR element is a spin-valve GMR element. The MR element incorporates a base layer, a free layer, a spacer layer, a pinned layer, an antiferromagnetic layer, and a cap layer that are stacked in this order. The pinned layer includes a
10 nonmagnetic spacer layer, and two ferromagnetic layers that sandwich this spacer layer.